

## **Issues and Answers #2**

### **Deliberate Changes, Measurement Differences and Sampling Error**

The Census 2000 Supplementary Survey (C2SS) data are being released to help data users, researchers, and methodologists understand the methodology and data products for the American Community Survey. At the outset of this program, the Census Bureau made a decision to release data as soon as they were available, so that data users could study them. As with any new product, particularly one as innovative as this, refinements will follow a thorough evaluation by the Census Bureau and outside experts.

One of the things people notice when comparing the C2SS and Census 2000 is that the “total population” is not the same. This is because the C2SS did not collect data from group quarters while Census 2000 did. The comparison reports will take this into account. Group quarters were excluded from the 2000 tests because of concerns about burdening the facilities with both the long form and the ACS in the same year. The comparison sites included group quarters in 1999 and 2001, but not in 2000.

More fundamentally, the ACS design deliberately introduces two changes in how the characteristics of the population are collected and reported:

1. The ACS collects data throughout the year, and reports the annual average characteristics of the “current residents” of any given area, averaged across the entire year. The census reports the April 1 characteristics of the “usual residents” of the area.
2. Instead of providing a very precise estimate of characteristics for one year each decade, the ACS provides a less precise estimate of characteristics for each year throughout the decade. To approximate the census precision, the previous five years of data will be averaged.

Some differences between the April 1 number and the annual average number are expected. Differences will likely be substantial in areas with highly seasonal populations. However, the difference in residence rules can cause smaller differences in all areas; in particular the number of units classified as occupied or vacant can be affected, which in turn can affect the number of households (occupied housing units) and families.

In addition to these deliberate differences, there appear to be some subtle measurement differences. For the most part, these differences are not large. However, some very large differences in race reporting for Hispanic respondents were observed, as well as some smaller differences in the frequency of reporting multiple races.

**Sampling Error:** Whenever comparing the C2SS with other data sources, it is important to consider the “margin of error” or confidence intervals around the estimates. If the alternative data source gives an estimate that falls in the C2SS confidence interval, this means that there is no basis to conclude that there is a systematic measurement

difference. Keep in mind that the C2SS sample is much smaller than either the census long form or the future ACS.

### **Measurement Differences Observed to Date:**

A. Race for Hispanic Respondents: For Hispanic respondents, the C2SS, when compared with Census 2000, had many fewer who reported “Some Other Race,” and a much larger number who reported “White” instead. “Some Other Race” usually meant that the respondent repeated the answer to the Hispanic origin question when answering the race question. Also, Hispanic respondents to the C2SS were more likely to give a specific Hispanic origin subgroup on the Hispanic origin question rather than a general category such as “Hispanic, Spanish, or Latino.” The causes for the differences are being studied.

While the subjectivity of race for Hispanics is generally recognized, people may be surprised that the ACS gives a higher overall number of people whose race is “White.” This is primarily because more Hispanic respondents are in that category, and is offset by a lower number of people reporting “Some Other Race,” almost all of whom are Hispanics. The causes for the differences are being studied.

B. Differences in Multiple Race Estimates: There are some differences in the numbers of people marking multiple races. Much of the difference is that the C2SS has fewer Hispanics marking both a race such as “White” and “Some Other Race,” as a by-product of the difference just discussed. Excluding combinations involving “Some Other Race,” the ACS still has more people marking some multiple race combinations and fewer marking other combinations. Overall, these differences are not large, but they are noticeable for the race groups where many people mark multiple races.

C. Differences in Vacancy Rate: Overall, the C2SS gives a vacancy rate on the order of one percentage point higher than Census 2000. Differences in vacancy rate could be produced by the differences in residence rules, but could have other causes. Differences on the order of a percentage point are also observed between the census and other household surveys. Given that the rates are not expected to be identical, a difference of this magnitude is not a serious quality concern.

D. Differences in the Number of Households and Families: A slightly higher vacancy rate will result in a slightly lower number of occupied housing units (households) and therefore a slightly lower number of families. Some differences of this type have been seen. The people studying these differences have hypothesized that there may also be some small differences between the C2SS and the census in which household member is listed as Person 1 on the form; this can affect the household type assigned to the household. The percentage differences are not large, so this is not a fundamental concern.

E. Differences between the C2SS and the CPS for Unemployment: The C2SS gives an unemployment rate for the year 2000 that is 1.4 percentage points higher than the CPS. In 1990, a 1.1 percentage point difference in the same direction is seen, when comparing

the 1990 census long form estimate to the CPS. There are several reasons for the differences, including the fact that the CPS asks additional questions to identify whether a person looking for work meets the criteria for an “active job search.” It would not be feasible to ask the additional CPS follow-up questions on a mail survey.

The CPS unemployment estimates are regarded as the definitive measure. However, since the long form historically differs from the CPS, we do not regard this as a problem for the ACS as a replacement for the long form.

F. Differences Between the C2SS and the CPS March Supplement for Income and Poverty: These differences are still being studied. In the 1990 and 1980 censuses, there was a general consistency between the census and CPS poverty rates at the state level, with a few states that were “outliers.” We would not be surprised to see a similar pattern for the ACS.

There are two reasons to anticipate a slightly higher poverty rate for the ACS, compared to the CPS March supplement. The ACS asks fewer income questions than the CPS, so people may not remember to report all their income. In addition, the C2SS seems to obtain more complete coverage of people in traditionally hard-to-enumerate race groups, who may tend to have higher poverty rates.

Issues and Answers #3 will discuss the Census Bureau’s testing program for the ACS.